Feasibility of Student Accommodation

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Introduction

Universities cannot provide residences for all their students. Student Accommodation in South Africa has become extremely profitable and competitive.

Problem

Choosing the correct location for your student accommodation is critical to ensure that you attract students wanting to rent.

Factors affecting decision of students such as:

- Distance from university
- Proximity of Food and Drink Shops
- Proximity of Restaurants
- Proximity of Recreational Activities
- Proximity of NIght Life

can be used to determine if a location will be feasible.

Interest

Landlords can use it to determine which is the best location for their student accommodation. This will improve their chances of success in their endeavours.

Data

Using the Four Square data, and given the geo-location of where the client would like to purchase student accommodation, we will retrieve the number of Food and Drink Shops, Restaurants, Recreational Activities and Night Life within 2000m from the location. These will then be scored according to the following table:

Category	**Score**
Food and Drink	5
Restaurants	2
Recreation	1
Night Life	1

Distance to the university will also be scored, with 100 points being given for within 100m and then decreasing by 5 points for every 100m away)

The score will give an indication of feasibility of the location.

The client has chosen 5 possible locations, and we will compare each one to see who has the highest score.

Methodology

First had to determine what factors influence students' decisions, so I interviewed 10 students who stayed in Student Accommodation, as well as 3 Landlords.

This gave me what variables to use, and what they weight they have on overall decisions.

Factors chosen:

Category	Score
Food and Drink	5
Restaurants	2
Recreation	1
Night Life	1

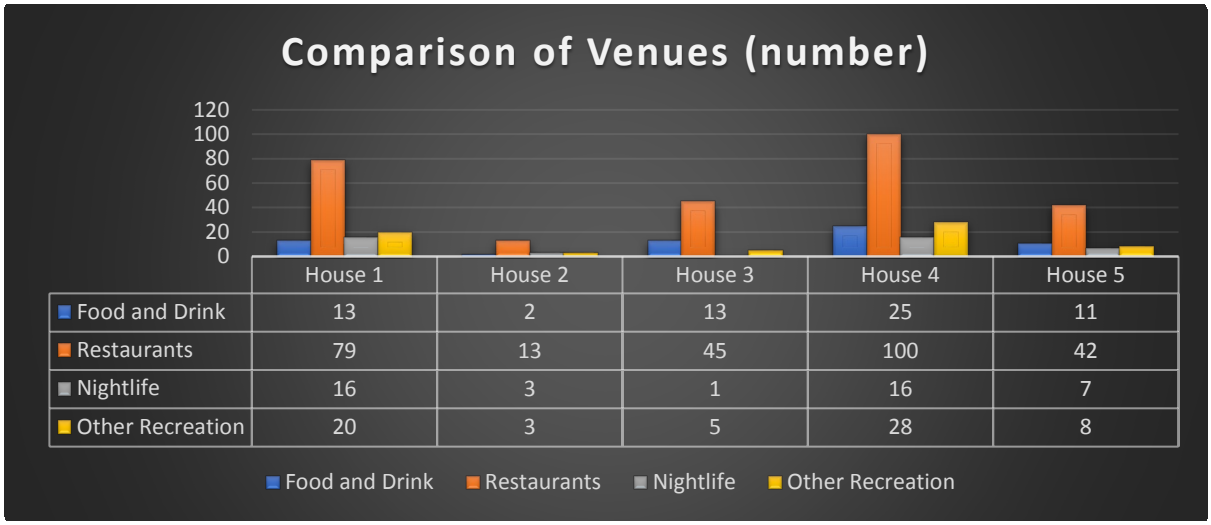
We also have to calculate the distance of the planned accommodation from the University, and then score that.

I did 4 separate API calls for each category and then used the total of each call to apply to the scoring table.

We then add all the various values to get an overall score, and compare for each location chosen by the client.

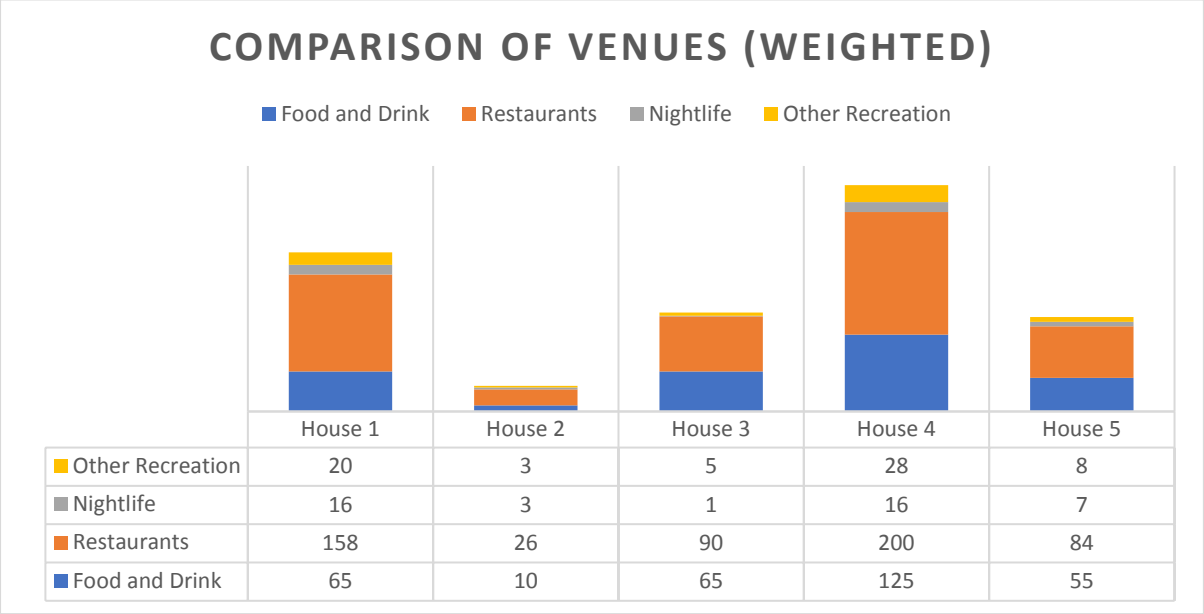
I used descriptive statistics, like frequency against the dataset returned, and also used haversine to calculate distance between the two geo-locations.

Results and Discussion



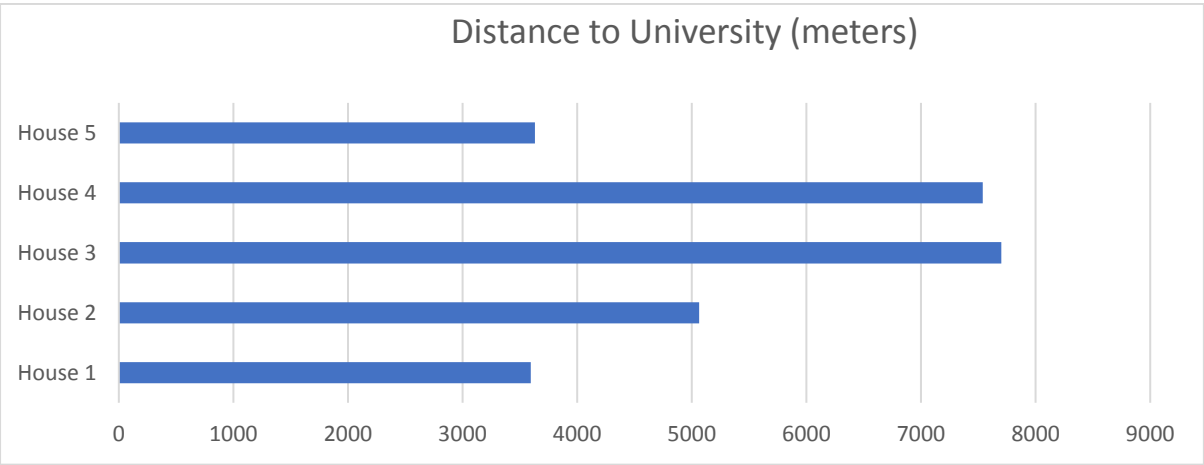
From the initial unweighted result set we see there is a large variance in the number of venues for those categories. House 2 seems to be the lowest overall, but this can be due to the location in a suburb compared to the busier and more dense areas as the other houses.

Applying the weighted formula to the scoring we can see from the first application, that House 4 has the highest score.

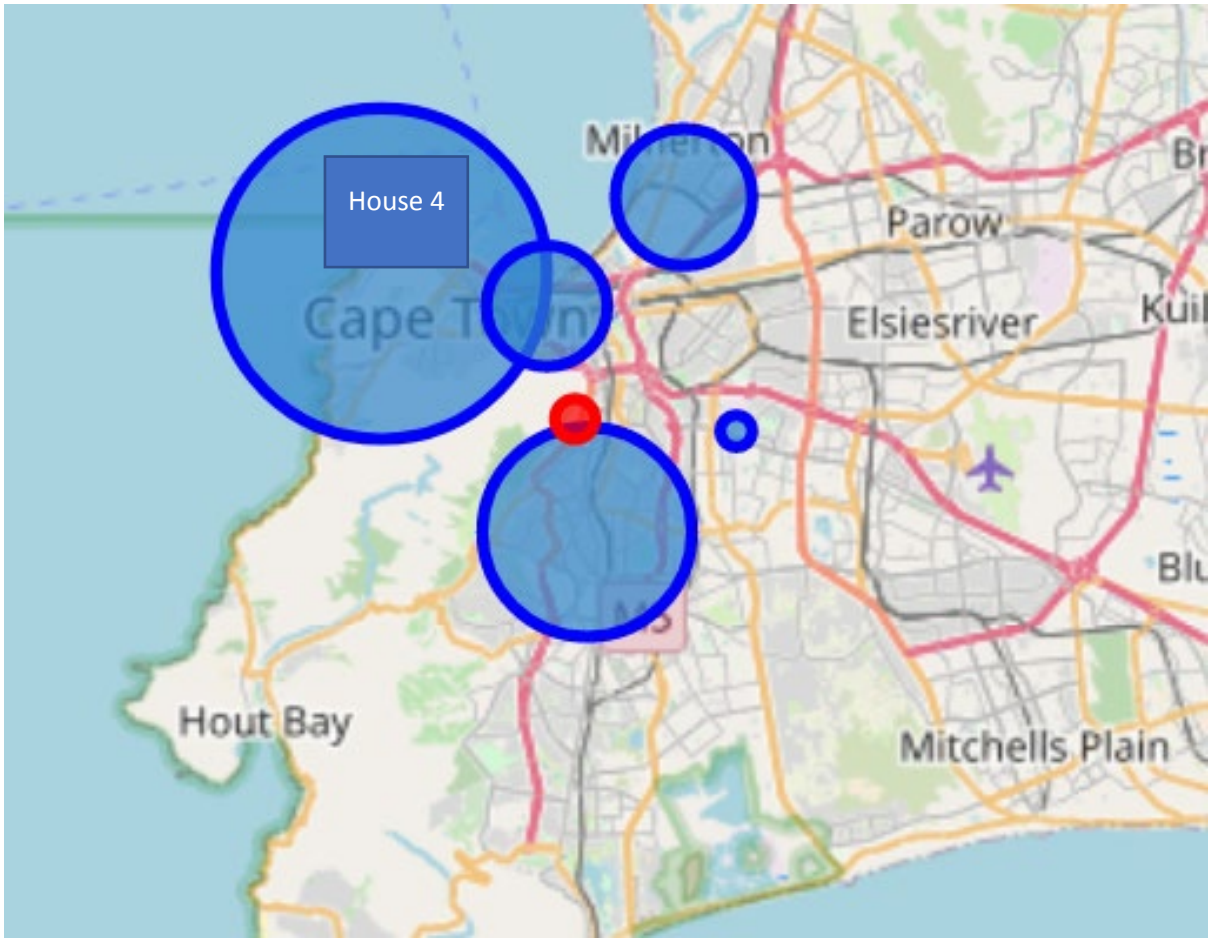


	House 1	House 2	House 3	House 4	House 5
Other Recreation	20	3	5	28	8
Nightlife	16	3	1	16	7
Restaurants	158	26	90	200	84
Food and Drink	65	10	65	125	55

Now we compare the distance from the houses to the University, House 3 and House 4 are the furthest from the university.



We can then combine the scores and then plot on a map to give an overall picture. The size of the circles is based on the score for the house. The red indicates the position of the university.



House 4 has the highest score, even when taking into account that the distance from the university is one of the furthest.

Conclusion

From the results, we can tell that House 4 is the most attractive to students, with the highest score. Although we only plotted 5 locations, we can easily increase the number significantly (though we need to consider API limits on Foursquare) . The weighting of the factors can also change to suit a specific target market, example, putting more weight to Night Life and Recreation, thereby changing the results. It would be good to also add more information, to enhance the dataset, for example crime in area, or public transport accessibility. A further enhancement would be including house price as a factor.